

July 2015

Cheyenne County

Estimated Economic Impact of Agriculture, Food, and Food Processing Sectors

A total of 12 agriculture, food, and food processing sectors were analyzed to determine their overall contribution to the Cheyenne County economy.¹ These 12 sectors have a total direct output of approximately \$167 million and support 467.7 jobs in Cheyenne County. Running the model for all 12 sectors simultaneously produces the following results:

Agriculture Contribution in Cheyenne County

| Impact Type ² | Employment | % of Total Employment | Total Value Added ³ | % of Gross Regional Product ⁴ | Output ⁵ | % of Gross Regional Product |
|--------------------------|------------|-----------------------|--------------------------------|--|---------------------|-----------------------------|
| Direct Effect | 467.7 | 30% | \$40,212,735 | 39% | \$166,892,530 | 163% |
| Indirect Effect | 120.0 | 8% | \$10,154,588 | 10% | \$18,359,867 | 18% |
| Induced Effect | 65.7 | 4% | \$4,400,709 | 4% | \$7,786,654 | 8% |
| Total Effect | 653.3 | 42% | \$54,768,033 | 54% | \$193,039,051 | 189% |

As shown in the above table, agriculture, food, and food processing supports 653.3 jobs, or 42% of the entire workforce in the county. These industries provide a total economic contribution of approximately \$193 million, roughly 189% of Gross Region Product (GRP). As noted below in the calculation of Gross Regional Product, imports and institutional sales are subtracted. Therefore, counties that import a relatively large amount of goods and services will have a reduced GRP which may lead to agricultural output being greater than GRP.

Another metric used to calculate the importance of sectors in an economy is their value added as a percentage of GRP. Total value added by the 12 agriculture, food, and food processing sectors is approximately \$55 million, or 54% of the GRP. This indicates that personal income, business income, and taxes generated by these sectors account for 54% of the total economy.

The following tables document the overall summary numbers of the model, top industries affected by employment and output, and a listing of all industries that were analyzed.

¹ Article on building a contribution analysis in IMPLAN that avoids double counting:
https://implan.com/index.php?option=com_content&view=category&id=19

² Direct, indirect, and induced effects sum together to estimate the total economic contribution in the state. **Direct effects** capture the contribution from agricultural and food products. **Indirect effects** capture the economic benefit from farms and agricultural businesses purchasing inputs from supporting industries within the state. **Induced effects** capture the benefits created when employees of farms, agricultural businesses, and the supporting industries spend their wages on goods and services within the state.

³ Value Added = Labor Income + Indirect Business Taxes + Other Property Type Income

⁴ GRP = Final Demand of Households + Governments Expenditures + Capital + Exports - Imports - Institutional Sales

⁵ Output = Intermediate Inputs + Value Added

In the top ten by employment, Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming is the top employer in the agriculture industry with 195.9 employees. This table also shows the amount of jobs that are created by the agriculture industry in Cheyenne County.

Top 10 Industries Affected by Employment

| Sector Description: | Total Employment | Total Output |
|--|------------------|--------------|
| Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming | 195.9 | \$64,936,058 |
| Grain farming | 150.2 | \$67,279,986 |
| Wholesale trade..... | 51.6 | \$10,525,027 |
| All other crop farming..... | 46.2 | \$7,506,808 |
| Dairy cattle and milk production..... | 25.4 | \$6,060,507 |
| Veterinary services | 24.2 | \$1,121,986 |
| Farm machinery and equipment manufacturing..... | 15.3 | \$9,028,350 |
| Accounting, tax preparation, bookkeeping, and payroll services | 9.4 | \$432,560 |
| Hospitals..... | 8.8 | \$1,167,592 |
| Monetary authorities and depository credit intermediation | 8.4 | \$1,204,431 |

The Grain farming industry directly contributes approximately \$67 million to Cheyenne County's economy. This table also shows how much revenue is generated in other industries by having a strong agriculture industry.

Top 10 Industries Affected by Output

| Sector Description: | Total Employment | Total Output |
|--|------------------|--------------|
| Grain farming | 150.2 | \$67,279,986 |
| Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming | 195.9 | \$64,936,058 |
| Wholesale trade..... | 51.6 | \$10,525,027 |
| Farm machinery and equipment manufacturing..... | 15.3 | \$9,028,350 |
| All other crop farming..... | 46.2 | \$7,506,808 |
| Dairy cattle and milk production..... | 25.4 | \$6,060,507 |
| Other animal food manufacturing..... | 3.6 | \$5,213,499 |
| Oilseed farming..... | 1.4 | \$3,857,571 |
| Owner-occupied dwellings | 0.0 | \$1,994,957 |
| Real estate..... | 8.2 | \$1,311,951 |

Below is a summary of all agriculture data with employment levels and output level. These values can tell how many jobs are represented by each agriculture sector and the output they contributed to Cheyenne County's economy.

[illegible]

All 105 counties in Kansas have IMPLAN models with an agriculture contribution summary. These values do not factor in the retail environment of food sales. Food retail is important, but in order to provide the most accurate picture of what production agricultural and processing contributes to Kansas, the retail sector was omitted.